

III. REMARKS

Claims 21-26 are pending in this application. By this Amendment, claims 21 and 24 have been amended, and no claims have been cancelled. Applicants are not conceding in this application that those claims are not patentable over the art cited by the Examiner, as the present claim amendments are only for facilitating expeditious allowance of the claimed subject matter. Applicants respectfully reserve the right to pursue these and other claims in one or more continuation and/or divisional patent applications. Reconsideration in view of the following remarks is respectfully requested.

Rejections under 35 U.S.C. § 112

In the Office Action, claim 21 is rejected under 35 U.S.C. § 112, second paragraph, as allegedly being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. Specifically, the Office alleges that the feature of “the first sub-layer ... a group consisting of perfluoroalkylsiloxanes [*sic*]” is unclear because the invention does not disclose that the first sub-layer is formed of “perfluoroalkylsiloxanes [*sic*].” Applicants respectfully request clarification from the Office with regard to this rejection, as it is not clear which claim the Office is quoting: none of the claims, including claim 21, includes the phrasing, “a group consisting of perfluoroalkylsiloxanes.”

Applicants have nonetheless amended claim 21 in the interest of expediting allowance of the claimed subject matter. As amended herein, claim 21 recites the feature, “wherein the first dielectric sub-layer includes at least one component not included in the second dielectric sub-layer, the at least one component including at least one fluoro-substituted analog of one of an organic alkylsiloxane and an organic alkoxysilane” (claim 21, lines 8-10), rather than “at least one component including *perfluoroalkylsiloxanes*.” Support for the instant amendment may be

found in the specification as filed in at least paragraph [0022], lines 1-4. Applicants submit that claim 21 as amended is clear, and that the instant invention clearly discloses the above-noted feature. Withdrawal of the rejection of claim 21 under § 112 is therefore respectfully requested.

Rejections under 35 U.S.C. § 103(a)

In the Office Action, claims 21-26 are rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Smith *et al.* (US Pat. 6,255,233, hereinafter “Smith”), in view of Todd (US Pat. 6,733,830, hereinafter, “Todd”). Applicants have amended claim 21 herein, and respectfully submit that the combination of Smith and Todd does not teach or suggest each and every feature recited herein.

With respect to independent claim 21, Applicants submit the combination of Smith and Todd does not teach or suggest, *inter alia*, “the first dielectric sub-layer includes at least one component not included in the second dielectric sub-layer, the at least one component including at least one fluoro-substituted analog of one of an organic alkylsiloxane and an organic alkoxysilane.” In the Office Action, the Office admits that Smith fails to teach or suggest this feature (as previously presented), and relies on Todd to overcome this deficiency of Smith. (Office Action, p. 4.) Specifically, the Office asserts that “Todd discloses the first dielectric sub-layer includes at least one component not included in the second sub-layer, that is, the first dielectric sub-layer being fluorinated through the at least one component being selected from a group consisting of perfluoroalkyl [*sic*] group, therefore, forming perfluoroalkylsiloxanes [*sic*] (col. 9, lines 14-56).”

Todd, however, teaches the use of chemical precursors with chemical vapor deposition processes to produce films for use in microelectronics that have low dielectric constants or other desirable features. (Todd, Abstract; col. 9, lines 9-12.) Todd teaches the use of 12 different

preferred chemical precursors, exhaustively including: siloxanes of the formula $(R_3Si)_2O$ (col. 9, line 13); (fluoroalkyl)fluorosiloxanes of the formula $[((R_f)_{3-x-y}R^1_xF_y)Si]_2O$ (*id.*, line 26); (fluoroalkyl)silanes of the formula $(R_f)_{4-a}SiR^1_a$ (*id.*, line 41); (fluoroalkyl)fluorosilanes of the formula $(R_f)_{4-c-b}SiR^1_cF_b$ (*id.*, line 57); alkylsiloxysilanes of the formula $(R_3SiO)_{4-b}SiR_b$ (col. 10, line 4); alkoxysilanes of the formula $(R^2O)_{4-a}SiR^1_a$ (*id.*, line 13); alkylalkoxysilanes of the formula $(R^2O)_{4-c-b}SiR^2_bR^1_c$ (*id.*, line 21); silylmethanes of the formula $(H_3Si)_{4-a}CR^1_a$ (*id.*, line 31); alkoxysilylmethanes of the formula $(R^2O)_{4-c-b}(H_3Si)_bCR^1_c$ (*id.*, line 50); alkylalkoxysilylmethanes of the formula $(R^2O)_{4-x-y-z}R^2_z(H_3Si)_yCR^1_x$ (*id.*, line 64); alkoxymethanes of the formula $(R^3O)_{4-a}CR^1_a$ (col. 11, line 13); alkylalkoxymethanes of the formula $(R^3O)_{4-c-b}R^2_bCR^1_c$ (*id.*, line 23); and mixtures of any two or more of the aforementioned primary chemical precursors (*id.*, line 35). Todd's list of precursors fails to include "at least one fluoro-substituted analog of one of an alkylsiloxane and an alkoxysilane." Todd does not teach the use of an *alkylsiloxane* at all, much less a fluoro-substituted analog of an organic alkylsiloxane. Further, Todd's *alkoxysilane* is specifically defined such that "R² is methyl, ethyl or propyl, R¹ is H or D, and a is 0, 1, 2, or 3, preferably in which R² is methyl or ethyl, more preferably H₃COSiH₃." (Col. 10, lines 13-16.) Thus, Todd also does not teach a *fluoro-substituted analog* of an organic alkylsiloxane.

Accordingly, because the combination of Smith (as admitted by the Office) and Todd (as discussed above) fails to teach or suggest each and every feature of claim 21 as amended, Applicants respectfully submit that the rejection under § 103(a) is improper. Withdrawal of the rejection is accordingly requested.

With regard to dependent claims 22-26, Applicants respectfully submit that these claims are allowable for reasons stated above relative to independent claim 21, as well as for their own additional claimed subject matter. Claim 24 has been amended herein to improve clarity, now

reciting “wherein the at least one component is selected from a group consisting of trifluoromethylsilane, 1,2-disilanotetrafluorethylene, 1,3-bis(silanodifluoromethylene)disiloxane, 2,2-disilanohexafluorosilane, bis(trifluoromethylidisiloxanyl)difluormethane, fluoroalkylsilanes, fluoralkylsiloxanes, perfluoroalkylsilanes, and perfluoroalkylsiloxanes,” however no new subject matter is added in the course of this amendment. (*See*, claims 4, 9, and 12 as originally filed; specification at paragraph [0022].) Accordingly, Applicants respectfully request that the Office withdraw the rejections under 35 U.S.C. § 103(a) to claims 22-26.

IV. CONCLUSION

Applicants respectfully submit that the application is in condition for allowance. Should the Examiner believe that anything further is necessary to place the application in better condition for allowance, the Examiner is requested to contact Applicants’ undersigned attorney at the telephone number listed below.

Respectfully submitted,

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